ABSTRACT OF THE DISCLOSURE

Improved techniques are provided for detecting and correcting errors and skew in inter-cluster communications within computer systems having a plurality of multi-processor clusters. The local nodes of each cluster include a plurality of processors and an interconnection controller. Intra-cluster links are formed between the local nodes, including the interconnection controller, within a cluster. Inter-cluster links are formed between interconnection controllers of different clusters. Intra-cluster packets may be serialized and encapsulated as inter-cluster packets for transmission on inter-cluster links, preferably with link-layer encapsulation. Each inter-cluster packet may include a sequence identifier and error information computed for that packet. Clock data may be embedded in symbols sent on each bit lane of the inter-cluster links. Copies of transmitted inter-cluster packets may be stored until an acknowledgement is received. The use of inter-cluster packets on an inter-cluster link is preferably transparent to other links and to the protocol layer.